REMARKS

Reconsideration of the pending application is respectfully requested in view of the following observations.

1. Interview Summary

The Applicant thanks the Examiner for conducting the interview in the instant application on April 1, 2011. During the interview, claim amendments to correct indefinite language and informalities identified in the Office Action were discussed in addition to clarifying language.

2. In the claims

Claims 1, 10, 16, 17, 19, 20, and 23 have been amended to correct indefinite language and informalities identified in the Office Action.

Claims 1 and 10 have also been amended to clarify that the document of value is illuminated to excite the luminescent feature substances such that the luminescent feature substances emit luminescence radiation. Support for this amendatory language may be found, for example, at least in paragraph [0022] of the specification.

It is submitted that the amendments to the claim do not raise new issues requiring further search and/or consideration since the language merely clarifies the interpretation which is consistent with the specification.

The claims are now considered to be placed in condition for allowance.

No new matter is introduced via the amendment to the claims.

Entry of the amendment to the claims is kindly requested.

3. Objections to claims 1-23 and rejections of claims 1-23 under 35 USC 112, 2nd paragraph

As discussed during the interview, it is submitted that the amendments to claims 1, 10, 16, 17, 19, 20, and 23 overcome the objections and rejections under 35 USC 112, 2nd paragraph as identified in the Office Action.

Withdrawal of the objections and rejections of the claims is kindly requested.

4. Rejection of claims 1-3, 6-7, 10, 15, 17-19, and 21-22 over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) and rejection of claims 1-3, 6-7, 10, 14, 15, 17-19, and 21-22 over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) further in view of US patent 6,974,623 (*Schwenk*)

Reconsideration of the rejection is respectfully requested in view of the amendment to the claims and the following observations.

This rejection is respectfully traversed in view of the amendments to claims 1 and 19 on the basis that *Guter* in view of *Okamura* and *Guter* in view of *Okamura* and *Schwenk* fails to establish a *prima facie* case of obviousness.

Amended claim 1 is directed to an apparatus for checking documents of value with luminescent feature substances and clarifies that "an illuminating apparatus for illuminating the document of value along a plurality of measuring tracks extending across the document of value and exciting the luminescent feature substances such that the luminescent feature substances emit luminescence radiation."

It is submitted that the proposed combination of *Guter* and *Okamura* and of *Guter*, *Okamura*, and *Schwenk* fails to teach or suggest all of the features of amended claim 1.

The courts have found that the Patent and Trademark Office determines the scope of the claims by "giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art." *Phillips v. AWH Corp.*, 415 F. 3d 1303, 1316 (Fed. Cir. 2005); MPEP § 2111. The broadest reasonable interpretation must be "consistent with the specification" and the interpretation that those skilled in the art would reach. MPEP § 2111.

As consistent with the specification and the understanding of a person having ordinary skill in the art, an illuminated document of value emits luminescence radiation when luminescence feature substance are excited via illumination causing the luminescent feature substances to emit luminescence radiation, which is clarified in amended claim 1. Further, paragraph [0022] of the specification discusses selecting the spectrum of the light sources such that the luminescent feature substances to be checked are excited as to luminescently glow.

Guter in view of *Okamura* does not teach or suggest all of the features of amended claims 1 and 19

Guter is directed to determining the degree of dirt accumulation on bank notes. *Guter* discloses that a disadvantage of previous devices is that they are affected by the transparency of the bank note (see col. 1, lines 36-39) and that it is an object of *Guter* to propose a device which can evaluate dirt accumulation independently of both the transparency and the brightness or average shading component of the paper (see col. 1, lines 56-62).

Guter accomplishes this by passing light from a light source (5) through the bank note (4) to be tested. The bank note is placed between the light source (5) and the photodiodes (10a, 10b, 10c), and the individual photodiodes (10a, 10b, 10c) receive light passed through the bank note (4) from light source (5) (see col. 4, lines 27-39). The dirt accumulation is then determined based on the amount of light received (col. 4, lines 40-50).

Guter is completely silent with respect to the bank notes containing any type of luminescent feature substance or the luminescent feature substances emitting luminescent radiation. While *Guter* discloses using a filter to only pass spectral components of the light which are chiefly within the blue range of the spectrum (see col. 4, lines 35-39), the filtering for specific spectral components is performed with respect to the light from the light source (5).

In any case, should a bank note containing luminescent feature substances be used in *Guter*, *Guter* does not disclose a light source (5) specifically for exciting the luminescent feature substances. As discussed in paragraph [0022] of the specification, care must be taken with selecting the spectrum in which the light sources emit light so that the luminescent feature substances are excited to emit luminescence radiation. Luminescent feature substances can only be excited in specific spectral ranges individual to each luminescent feature substance. *Guter* appears to disclose using light in the visible range, specifically the "light of a lamp" (see col. 2, lines 17-20) and then passing only the blue spectrum range of the light.

Moreover, *Guter* does not disclose an element to specifically capture luminescence radiation. When luminescent feature substances are excited by optical radiation to emit luminescence radiation, the luminescence radiation is optical radiation emitted by the

luminescent feature substances at a wavelength that is different from the wavelength of the exciting radiation.

Therefore, the measuring of luminescence radiation to determine the degree of soil accumulation is not contemplated by or suggested by *Guter* and outside the teachings of *Guter*.

Furthermore, an ordinarily skilled person would not modify *Guter* to measure luminescence radiation for the purposes of determining soil accumulation. A basic problem in checking whether a document of value has luminescent feature substances is that even with intensive exciting radiation, the luminescence radiation emitted by the luminescent feature substances is very low in intensity, which is difficult to detect.

Another consideration by an ordinarily skilled person is that the dirt accumulation determining system and method of *Guter* is not only more complex and difficult to implement than a visible light based system but also that since the luminescence radiation is difficult to detect, the system and method of *Guter* may not necessarily work using luminescence radiation.

As a result, an ordinarily skilled person would not modify *Guter* to use luminescence radiation instead of visible light for determining dirt accumulation.

Lastly, *Guter* does not disclose integrating *the measured luminescence radiation* values for each of the tracks to carry out the checking of the documents of value as required by claim 1. *Guter* does not disclose measuring *luminescence radiation*, and therefore, cannot disclose integrating measured luminescence radiation for each track.

Furthermore, *Okamura* does not cure the deficiencies of *Guter* since *Okamura* is directed to capturing MICR text from a check based using character recognition (see col. 8, lines 55-67). *Okamura* does not disclose the check containing any type of substance excitable by light to emit radiation.

Okamura uses a first scan (preliminary scan) to determine a suitable binarization method so that MICR text (48) can be detected in a subsequent scan (see col. 7, lines 46-54). Preliminary scanning areas (T, T') are areas around the first detected MICR character and offset from the first detected MICR character (see col. 8, lines 5-10). *Okamura* does not disclose integrating luminescence radiation values along each of these tracks.

Finally, the instant application discloses an apparatus which checks the authenticity and/or nominal value of documents of value with luminescent feature substances (see Specification, paragraph [0001]). In contrast, neither *Guter* nor *Okamura* disclose checking the authenticity of a document of value.

Accordingly, the proposed combination of *Guter* and *Okamura* does not teach or suggest the feature of checking documents of value with luminescent feature substances by exciting the luminescent feature substances such that the luminescent feature substances emit luminescence radiation.

Guter in view of *Okamura* and *Schwenk* does not teach or suggest all of the features of amended claims 1 and 19

Schwenk does not cure the deficiencies of *Guter* or *Okamura*.

Schwenk is directed to a security paper with luminescent mottled fibers that represent an easily machine-readable code (see col. 1, lines 44-47). The luminescent feature substances used emit in a narrow-band such that the detector is tuned to that narrow spectral interval in which the emission band lies (see col. 2, lines 26-29). Further, the measurement is also affected by the concentration of the luminescent substance that are introduced into the fibers and the surface density of the mottled fibers (see col. 2, lines 36-39).

As discussed above, an ordinarily skilled person would not modify *Guter* to use luminescent feature substances. Furthermore, an ordinarily skilled person would not modify *Guter* based on the teachings of *Schwenk*.

Schwenk limits the luminescent feature substances to mottled fibers which are used for security purposes. Based on *Schwenk*, by introducing mottled fibers containing luminescent feature substances to *Guter*, an ordinarily skilled person would have to determine the specific spectral interval in which the luminescent feature substances would emit luminescence radiation. Moreover, the ordinarily skilled person would have to take into account the distribution of the luminescent feature substances in the mottled fibers as well as the distribution of the mottled fibers in the bank note. A modification of *Guter* based on *Schwenk* would introduce added considerations to *Guter* without necessarily adding any benefit or improvement to *Guter*.

Therefore, an ordinarily skilled person would not combine the teachings of *Guter*, *Okamura*, and *Schwenk*.

Amended claim 19 includes features similar to those of amended claim 1 and is likewise allowable for reasons similar to those given above. Moreover, claims 2-3, 6-7, 10, 14, 15, 17-18, and 21-22 depend from one of claims 1 and 19 and are likewise allowable in view of their dependency from claim 1 or 19 for the reasons above and their individually recited features.

It is noted that no prior art rejection is made with respect to claim 20 which recites checking the luminescent feature substances and are incorporated in and/or applied onto the document of value in random distribution. Furthermore, claim 20 depends from claim 19 and is allowable at least for the reasons above in view of its dependency from claim 19 and its individually recited features.

Withdrawal of the rejection of the claims in view of the prior art is kindly requested.

5. Rejection of claims 4, 5, 12, and 16 under 35 USC 103(a) over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) further in view of US patent 6,974,623 (*Schwenk*) and US patent 6,741,727 (*Hirasawa*)

Claims 4, 5, 12, and 16 depend from claim 1 and are likewise allowable in view of their dependency from claim 1 for the reasons above and their individually recited features.

Moreover, *Hirasawa* does not cure the deficiencies of *Guter*, *Okamura*, and *Schwenk* since *Hirsawa* is directed to determining the amount of soil on printed matter using an IR image of the printed matter to measure the spectral *reflectance* characteristics (see col. 5, lines 29-54) and not to measure luminescence radiation emitted by luminescent feature substances when excited.

Withdrawal of the rejection of the claims in view of the prior art is kindly requested.

6. Rejection of claim 7 under 35 USC 103(a) over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) further in view of US patent 6,974,623 (*Schwenk*) and US patent 6,636,624 (*Raterman*)

Claim 7 depends from claim 1 and is likewise allowable in view of its dependency from claim 1 for the reasons above and its individually recited features.

Moreover, *Raterman* does not cure the deficiencies of *Guter*, *Okamura*, and *Schwenk* since *Raterman* discloses identifying and counting currency bills based on "optical sensing of bill *reflectance* characteristics…Light from the bill as it is optically scanned is detected" (see col. 2, lines 41-65) (emphasis added). *Raterman* does not disclose luminescence radiation emitted by excited luminescent feature substances.

Withdrawal of the rejection of the claims in view of the prior art is kindly requested.

7. Rejection of claim 13 under 35 USC 103(a) over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) further in view of US patent 6,974,623 (*Schwenk*) and EP 0 744 716 (*Cummings*)

Claim 13 depends from claim 1 and is likewise allowable in view of its dependency from claim 1 for the reasons above and its individually recited features.

Moreover, *Cummings* does not cure the deficiencies of *Guter*, *Okamura*, and *Schwenk*. Similar to *Guter*, *Cummings* uses "a broadband (white) light source 18 which directs a narrow, collimated beam of light over a light path 20 to illuminate a small circular area 22 of the document 12" (see col. 2, lines 6-10). The spectroscope then disperses the incident light into a spectrum output beam (28) (see col. 2, lines 11-15). *Cummings* does not disclose luminescence radiation emitted by excited luminescent feature substances.

Withdrawal of the rejection of the claims in view of the prior art is kindly requested.

8. Rejection of claim 11 under 35 USC 103(a) over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) further in view of US patent 6,974,623 (*Schwenk*) and GB 2122743 (*Bergstrom*)

Claim 11 depends from claim 1 and is likewise allowable in view of its dependency from claim 1 for the reasons above and its individually recited features.

Moreover, *Bergstrom* does not cure the deficiencies of *Guter*, *Okamura*, and *Schwenk* since *Bergstrom* measures the light radiation *reflected from* or *transmitted through* the bank note to determine authenticity of the bank note (see Abstract).

Withdrawal of the rejection of the claims in view of the prior art is kindly requested.

8. Rejection of claims 8 and 9 under 35 USC 103(a) over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) further in view of US patent 6,974,623 (*Schwenk*) and US patent 5,652,802 (*Graves*)

Claims 8 and 9 depend from claim 1 and are likewise allowable in view of their dependency from claim 1 for the reasons above and their individually recited features.

Moreover, *Graves* does not cure the deficiencies of *Guter*, *Okamura*, and *Schwenk* since *Graves* scans the light radiation *reflected from* a light strip (24) on the currency bill (17) (see col. 5, line 56 – col. 6, line 3). Patterns are determined from the scanning and compared to the master characteristic patterns generated from standard bills to determine the identity of the bill. (see col. 6, lines 4-39).

Withdrawal of the rejection of the claims in view of the prior art is kindly requested.

9. Rejection of claim 23 under 35 USC 103(a) over US patent 4,189,235 (*Guter*) in view of US patent 7,426,291 (*Okamura*) further in view of US patent 6,974,623 (*Schwenk*) and US patent 4,451,521 (*Kaule*)

Claim 23 depends from claim 19 and is likewise allowable in view of its dependency from claim 19 for the reasons above and its individually recited features.

Moreover, *Kaule* does not cure the deficiencies of *Guter*, *Okamura*, and *Schwenk* since an ordinarily skilled person would not combine *Kaule* with *Guter*, *Okamura*, and *Schwenk*. *Kaule* discloses security papers having "security in the form of luminescing substances which are as difficult as possible to recognize and which in particular show no emission in the visible spectral region" (see col. 3, lines 54-60). As discussed above, an ordinarily skilled person would not modify *Guter* to use luminescing substances especially ones which are "as difficult as possible to recognize" and do not emit in the visible spectral region for the purposes of determining dirt accumulation.

Withdrawal of the rejection of the claims in view of the prior art is kindly requested.

10. Conclusion

As a result of the amendment to the claims, and further in view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is respectfully requested that every pending claim in the present application be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the applicant's attorney, the examiner is invited to contact the undersigned at the numbers shown below.

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Respectfully submitted,

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